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DIRECTORY OF INSTITUTIONS ENGAGED IN POLLUTION INVESTIGATIONS

Contaminants in Aquatic Organisms

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

Rome, March 1974

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FAO Fisheries Circular (FAO Fish. Circ.)

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1. Introduction

The Food and Agriculture Organization of the United Nations (FAO) is promoting and co-ordinating programmes and activities on the monitoring and conservation of the productive capacity of living aquatic resources for fisheries and on the interactions of man's activities and the environment, including the problems of waste disposal, pollution and related food contamination.

Within this mandate priority is given to assisting developing countries in research, monitoring and evaluation of the state of the aquatic environment and its management, in relation to the protection of living resources, fishing and aquaculture, particularly in inland and coastal areas and enclosed seas, where pollution presents urgent problems. In this respect, the FAO regional fisheries bodies are promoting and coordinating regional cooperative programmes of their member countries, and a number of studies have been published or are being prepared reviewing the state of aquatic pollution in the areas concerned, developing water quality criteria for the protection of the living resources, and compiling data and information on contaminants in aquatic organisms relevant to fisheries.

Simultaneously with these activities, and in order to predict and prevent future degradation of the aquatic environment and resources, and in order to provide the basis for decision-making, the FAO Fishery Resources and Environment Division has taken steps to facilitate the exchange of information and experience among countries, and to identify, evaluate and disseminate basic data through its Fishery Data Centre and documentation service. This is done through contacts with the appropriate national institutions and collaboration with regional scientific bodies and other institutions concerned.

The FAO Fishery Data Centre, which is part of the World Data Centres' system, as a specialized centre, is aimed at assisting FAO Member States and cooperating fisheries institutions, regional fisheries bodies, and field projects with standards for biological data collection, organized storage, rapid retrieval and processing of these data for use in the assessment of fishery resources and their state.

The FAO Fishery Data Centre also provides support to the Intergovernmental Oceanographic Commission (IOC), as a joint specialized mechanism of the United Nations agencies whose Executive Heads are participating in the Inter-Secretariat Committee on Scientific Problems Related to Oceanography, ICSPRO (Unesco, FAO, WMO, IMCO, UN), as well as to cooperative investigations under the IOC and to research projects under the Global Investigation on Pollution in the Marine Environment (GIPME). Through its progressive development it is expected that the FAO Fishery Data Centre will provide service and logistic support for biological monitoring and contribute to the Global Environmental Monitoring System (GEMS), as part of the FAO/UNEP Cooperative Programme.

In order to extend these activities to the determination of levels of contaminants in various organisms, especially those of commercial importance - following Recommendation 91 of the UN Conference on the Human Environment (Stockholm, June 1972) - the Fishery Data Centre, in July 1973, as a first phase of a long-term programme, distributed to marine and freshwater institutions around the world a questionnaire designed to collect information on programmes being undertaken to analyse and measure contaminants in aquatic organisms.

This Directory contains an analysis of all forms returned as of 30 November 1973. Revised editions will be published as more replies to the questionnaire are received.

Plans are currently underway for a second questionnaire which will seek more comprehensive information on geographical areas covered by biological monitoring or ad hoc analytical systems, and will ascertain from institutions details of the data inventories they maintain - by species, by contaminant analysis, and time period. This information will then be used to prepare a world-wide inventory of data available in national and international institutions and to evaluate and plan the services which the FAO Fishery Data Centre is expected to provide in this field.

2. Use to be made of the Directory

The present Directory contains the addresses of 233 institutions from 48 countries who responded positively to the Questionnaire (see Annex I), and indicates their special field of work and interest in connection with either research programmes or routine activities associated with aquatic pollution monitoring.

In the Directory, countries are listed in alphabetical order. Within each country, institutions are classified according to their field of activity, i.e. whether they are dealing with marine or freshwater species, or with both of them. Institutions analysing samples from lagoons/bays/estuaries are listed under "marine waters" (M) if they are fundamentally dealing with coastal waters or samples from the open ocean, and under "freshwater" (F) if they are essentially involved in investigating organisms from lakes or rivers. If samples are taken from rivers or lakes and coastal waters or the open ocean, institutions are listed under "aquatic" (A).

The above classification - M, F or A - has been used in the first three columns after the addresses to indicate the special fields of work of the institutions, i.e. whether they are directed to research or monitoring programmes or to both of them, and whether they include investigations on the bioassays. The 'X' signs in the other columns indicate the activities of these institutions which - according to the replies to the Questionnaire - are classified as follows:

Geographical Area:	Samples are taken from a specific geographical area (for code numbers see Table 1)
Communities/Species:	Indicates the communities or groups of organisms being investigated:
	Plankton
	Benthos
	Interstitial fauna
	Micro-organisms
	Marine mammals
	Pelagic
	Demersal
	Aquatic species of commercial interest

Categories of Contaminants: Indicates the categories of contaminants being analysed:

Halogenated hydrocarbons (pesticides, etc.)
Petroleum hydrocarbons
Other organic chemicals (fatty acids, lipids, etc.)
Metals
Radioactive substances
Biological pollutants (bacteria, viruses, etc.)
Others

From this arrangement the user of the Directory may identify the field of activity and easily locate the addresses of institutions working in the field he is interested in. Names of research workers mentioned in some cases on the Questionnaires are not included in the present Directory. However, such information will be merged with that already collected within FAO's Aquatic Sciences and Fisheries Information System (ASFIS) to be used for a future revision of a world list of experts, a first edition of which was issued in October 1973 as "Directory of Experts on Marine Pollution" (FAO Fish. Tech. Pap. No. 99, Rev. 1, Rome, 1973).

3. Preliminary analysis of available information

3.1 Number of active institutions by country, by aquatic medium and by programme type

In Table 2 the number of institutions is listed by country (in alphabetical order) and both by aquatic medium (marine, freshwater, aquatic) and by programme type (research, routine monitoring, bioassays and/or toxicity tests): 129 institutions are collecting data on the concentration of contaminants in marine organisms, 35 are dealing with freshwater samples, and 68 are working in both fields. With regard to the programme type 205 of the institutions are actively engaged in research programmes related to aquatic pollution. Routine monitoring programmes concerning contaminants in aquatic organisms, on the other hand, are also carried out by a surprisingly high number of institutions, namely 77. This indicates that 37 percent of all institutions contained in the Directory and 54 percent of the countries listed are engaged in such activities. 138 institutions in 36 out of 48 countries are additionally dealing with bioassays and/or toxicity tests.

3.2 Number of active institutions by major water body areas

The number of institutions collecting data on concentrations of contaminants in samples taken from the various oceans and marginal seas are given in Figure 1 together with the location of the institutions. In addition, Table 3 lists the number of institutions in major sea areas with a ranking of oceans in the order of importance given to them by the investigating institutions.

3.3 Number of active institutions by aquatic communities

An evaluation of the replies to the Questionnaire results in the following ranking of the number of institutions dealing with the various communities or major species:

Aquatic species of commercial value:	130	institutions
Benthos	116	"
Plankton	104	"
Pelagic	75	"
Demersal	63	"
Micro-organisms	59	"
Interstitial fauna	35	"
Marine mammals	35	"

Information on the relevant activities by country is given in Table 4.

3.4 Number of active institutions by contaminants analysed

Similar to 3.3, a ranking of the number of institutions dealing with the main contaminants is as follows:

Metals	171	institutions
Halogenated hydrocarbons (pesticides, etc.)	124	"
Biological pollutants (bacteria, viruses, etc.)	83	"
Petroleum hydrocarbons	76	"
Other organic chemicals (fatty acids, lipids, etc.)	42	"
Radioactive substances	34	"
Others	29	"

Detailed information on the relevant activities by country is contained in Table 5.

Table 1

Code numbers of sea areas from which samples are taken

10 North Atlantic Ocean
11 Norwegian Sea
12 North Sea (incl. Skagerrak)
13 Baltic Sea (incl. Kattegat, Belt Sea)
14 Irish Sea and English Channel
15 Gulf of Biscay
16 Mediterranean Sea (incl. Black Sea)
17 Caribbean Sea and Gulf of Mexico
18 Gulf of St. Lawrence
19 Hudson Bay

20 South Atlantic Ocean (incl. tropical zone)
21 Gulf of Guinea
22 Eastern shelf zone (southern Africa)
23 Western shelf zone (Patagonian shelf)

30 North Pacific Ocean (incl. tropical zone)
31 Bering Sea
32 Sea of Okhotsk
33 Sea of Japan
34 East China Sea (incl. Yellow Sea)
35 South China Sea
36 Indonesian waters (incl. Java Sea,
Celebes Sea, Sulu Sea,
Flores Sea, Banda Sea,
Molucca Sea, Makassar Strait)
37 Gulf of Panama
38 Gulf of California
39 Gulf of Alaska

40 South Pacific Ocean (no subdivisions)

50 North Indian Ocean
51 Red Sea
52 Gulf of Aden
53 Persian Gulf
54 Gulf of Oman
55 Arabian Sea
56 Bay of Bengal
57 Andaman Sea
58 Strait of Malacca

60 South Indian Ocean
61 Timor Sea
62 Arafura Sea
63 Great Australian Bight
64 Mozambique Channel

70 Polar Seas; Arctic
71 Barents Sea
72 Greenland Sea
73 Baffin Bay
74 Beaufort Sea

80 Polar Seas; Antarctic
81 Ross Sea
82 Weddell Sea

GL Great Lakes
CS Caspian Sea

Table 2

Number of active institutions by country, by aquatic medium and by programme type

	Total number of active institutions	Aquatic medium			Programme type				Total number of active institutions	Aquatic medium			Programme type		
		Marine	Freshwater	Aquatic	Research	Routine Monitoring	Bioassays			Marine	Freshwater	Aquatic	Research	Routine Monitoring	Bioassays
Angola	1	1	-	-	1	-	-	Kuwait	1	1	-	-	-	1	-
Argentina	4	2	-	2	4	1	1	Malta	1	1	-	-	1	-	1
Australia	5	3	1	1	5	1	2	Mexico	4	1	1	2	4	1	3
Belgium	3	1	-	2	3	1	3	Morocco	2	2	-	-	1	2	1
Bermuda	1	1	-	-	1	-	1	Mozambique	1	1	-	-	1	-	-
Canada	31	9	11	10	23	14	16	Netherlands	3	-	-	3	3	1	3
Chile	8	5	2	-	6	-	2	New Zealand	3	1	1	1	3	-	1
Colombia	1	-	-	1	1	-	-	Norway	2	2	-	-	2	1	2
Cuba	2	2	-	-	2	1	2	Peru	1	-	-	1	1	-	1
Denmark	1	1	-	-	1	1	-	Philippines	2	-	-	2	1	1	1
Finland	2	1	-	1	2	-	1	Poland	1	-	-	1	1	1	1
France	8	6	2	-	7	3	7	Portugal	1	1	-	-	1	1	1
Germany, F.R.	5	3	1	1	4	2	4	Rumania	1	1	-	-	1	-	1
Greece	1	-	-	1	1	-	1	South Africa	2	1	-	1	2	2	1
Hong Kong	1	1	-	-	1	-	-	Spain	6	5	-	1	5	3	2
Iceland	2	-	-	2	2	-	-	Sweden	4	3	1	-	3	2	1
Indonesia	2	2	-	-	2	-	1	Switzerland	1	-	-	1	1	-	1
Iran	1	-	-	1	1	-	-	U.K.	30	18	2	6	25	10	16
Ireland	1	-	-	1	-	1	-	Uruguay	1	-	-	1	1	-	-
Israel	3	1	-	2	3	1	2	U.S.A.	64	37	11	16	61	22	48
Italy	3	-	1	2	2	1	3	U.S.S.R.	1	-	-	1	-	1	-
Ivory Coast	1	1	-	-	1	-	1	Venezuela	3	2	-	1	3	-	2
Japan	7	4	1	2	7	-	2	Viet-Nam	2	1	-	1	2	-	-
Korea	1	1	-	-	1	-	1	Yugoslavia	1	1	-	-	1	1	1
								Total	233	129	35	68	205	77	138

Table 3

Number of institutions taking samples and collecting data on contaminants in organisms from major sea areas

North Atlantic Ocean:	159	North Sea:	25	South Atlantic Ocean:	11	Western shelf zone:	4
		Mediterranean Sea:	18			Eastern shelf zone:	3
		Gulf of Mexico/ Caribbean Sea:	17			Gulf of Guinea:	1
		Irish Sea/Channel:	14			unspecified	3
		Baltic Sea:	10	Arctic Ocean:	9	Barents Sea:	1
		Gulf of St. Lawrence:	6			Baffin Bay:	1
		Gulf of Biscay:	5			Beaufort Sea:	1
		Norwegian Sea:	2			unspecified	6
		Hudson Bay:	1	Southern Indian Ocean:	7	Great Australian Bight:	2
		unspecified	61			Mozambique Channel:	2
						unspecified	3
North Pacific Ocean:	49	South China Sea:	7				
		Sea of Japan:	5	Northern Indian Ocean:	5	Red Sea:	3
		Gulf of California:	5			Persian Gulf:	2
		Gulf of Alaska:	4			unspecified	0
		Bering Sea:	2				
		Indonesian Waters:	2	Antarctic Ocean:	4	unspecified	4
		East China Sea:	1	Great Lakes:	9		
		unspecified	23				
				Caspian Sea:	1		
South Pacific Ocean:	16	unspecified	16	East African Lakes:	1		

Table 4

Number of active institutions by communities

	Plankton	Benthos	Interstitial fauna	Microorganisms	Marine mammals	Pelagic	Demersal	Species of commercial value
Angola	-	-	-	-	-	1	-	-
Argentina	3	2	-	3	1	1	1	1
Australia	1	3	-	-	-	-	-	3
Belgium	3	3	1	1	-	2	1	-
Bermuda	-	-	-	-	-	1	-	-
Canada	12	12	4	12	10	8	10	28
Chile	1	4	1	-	-	-	2	4
Colombia	1	1	-	1	1	-	1	1
Cuba	2	1	1	1	-	1	1	1
Denmark	-	1	-	-	1	1	1	-
Finland	2	1	-	-	-	-	-	1
France	5	5	2	2	1	2	1	4
Germany, F.R.	4	3	-	3	1	1	1	3
Greece	1	1	-	-	-	1	-	-
Hong Kong	-	-	-	-	-	-	-	1
Iceland	1	-	-	1	1	-	-	-
Indonesia	1	1	-	1	-	2	1	1
Iran	1	1	1	1	1	-	-	1
Ireland	-	1	1	-	-	-	1	1
Israel	2	2	-	1	-	-	-	-
Italy	1	1	-	-	-	1	1	1
Ivory Coast	-	-	-	1	-	-	-	-
Japan	4	2	-	-	1	1	1	2
Korea	-	-	1	-	-	1	1	-
Kuwait	1	1	1	1	-	1	1	1
Malta	-	-	-	1	-	-	-	1
Mexico	3	2	2	-	1	2	2	2
Morocco	-	-	-	-	-	-	-	1
Mozambique	-	-	-	-	-	-	-	1
Netherlands	1	1	-	-	1	1	-	1
New Zealand	-	3	1	-	-	1	1	2
Norway	2	1	-	-	-	1	1	-
Peru	-	-	-	-	-	1	1	1
Philippines	-	-	-	-	-	-	-	2
Poland	1	1	-	1	-	1	1	1
Portugal	1	-	-	-	-	1	1	1
Rumania	1	1	-	1	-	1	-	-
South Africa	2	2	2	1	1	1	1	-
Spain	1	3	1	1	-	4	2	5
Sweden	1	3	-	-	1	1	1	1
Switzerland	1	-	-	1	-	1	-	-
U.K.	11	17	6	6	4	5	4	8
Uruguay	-	-	-	-	-	1	1	1
U.S.A.	31	32	9	16	8	24	18	43
U.S.S.R.	1	1	1	-	1	1	1	1
Venezuela	-	1	-	1	-	2	2	2
Viet-Nam	-	1	-	-	-	-	-	1
Yugoslavia	1	1	-	1	-	1	1	1
Total	104	116	35	59	35	75	63	130

Table 5

Number of active institutions by contaminants analysed

	Hal. hydrocarbons	Petr. hydrocarbons	Other org. chem.	Metals	Radioact. subst.	Biolog. pollutants	Others
Angola	-	-	1	1	-	-	-
Argentina	3	3	4	3	-	3	-
Australia	2	-	-	4	-	1	-
Belgium	1	-	-	3	1	1	-
Bermuda	-	1	-	-	-	-	-
Canada	22	11	7	24	3	10	4
Chile	-	2	1	4	1	5	2
Colombia	1	-	-	-	-	-	-
Cuba	2	1	2	1	1	1	-
Denmark	-	-	-	1	-	-	-
Finland	1	-	1	2	-	-	-
France	3	3	1	5	-	5	1
Germany, F.R.	4	2	1	4	1	2	1
Greece	-	1	1	1	1	-	-
Hong Kong	-	-	-	-	-	1	-
Iceland	1	-	-	1	-	2	-
Indonesia	-	1	-	-	-	-	2
Iran	1	1	1	1	-	1	-
Ireland	1	-	-	1	1	1	-
Israel	1	2	-	1	-	1	-
Italy	-	1	1	1	-	-	-
Ivory Coast	-	1	-	-	-	-	-
Japan	2	1	1	5	3	-	-
Korea	-	-	-	1	-	1	-
Kuwait	1	1	-	1	1	1	1
Malta	1	-	-	1	-	-	-
Mexico	2	2	1	2	-	2	-
Morocco	1	-	1	1	-	2	-
Mozambique	-	-	-	1	-	-	-
Netherlands	3	-	-	3	1	1	1
New Zealand	1	-	-	3	-	-	-
Norway	1	1	1	2	-	-	-
Peru	1	-	-	1	-	1	1
Philippines	-	1	-	1	-	1	-
Poland	1	1	-	1	1	1	1
Portugal	-	-	-	-	-	1	-
Rumania	-	1	-	1	1	1	-
South Africa	2	1	1	2	1	1	-
Spain	4	5	-	5	-	4	1
Sweden	3	1	-	3	1	-	-
Switzerland	-	-	-	-	-	1	-
U. K.	12	6	5	24	1	5	2
Uruguay	-	-	-	1	1	1	-
U. S. A.	41	22	9	50	11	22	12
U. S. S. R.	1	1	1	1	1	1	-
Venezuela	1	1	1	2	1	-	-
Viet-Nam	2	1	-	-	-	1	-
Yugoslavia	1	-	-	1	1	1	-
Total	124	76	42	171	34	83	29

COUNTRY	INSTITUTIONS	Research data	Monitoring data	Bioassay/toxicity tests	Geographical area	COMMUNITIES/SPECIES								CATEGORIES OF CONTAMINANTS						
						Plankton	Benthos	Interstitial fauna	Microorganisms	Marine mammals	Pelagic	Demersal	Spp. of commerc. interest	Halogenated hydrocarbons	Petroleum hydrocarbons	Other organic chemicals	Metals	Radioactive substances	Biological pollutants	Others
ANGOLA	Instituto das Indústrias de Pesca de Angola Caixa Postal 83 Luanda	M			22						X					X	X			
ARGENTINA	Instituto Argentino de Oceanografía Av. Alem 53 Bahia Blanca Pcia. Bs. As.	M			23	X	X		X						X	X	X		X	
	Biblioteca Instituto Argentino de Oceanografía Av. Alem 53 Bahia Blanca Pcia. Bs. As.	M		M	23	X	X		X	X	X	X	X	X	X	X	X		X	
	Instituto de Biologia Marina Casilla de Correo 175 Mar del Plata	A			23								X	X		X				
	Subsecretaría de Recursos Hídricos Departamento de Contaminación Hídrica Centro de Tecnología del Agua 25 de Mayo 459 Buenos Aires	A	A			X			X					X	X	X	X		X	
AUSTRALIA	Department of Zoology University of Queensland St. Lucia 4067 Brisbane, Queensland	M		M	40								X	X						
	Department of Food Technology University of New South Wales P.O. Box 1 Kensington, N.S.W. 2033	M			63		X						X				X		X	

COUNTRY	INSTITUTIONS	Research data	Monitoring data	Bioassay/toxicity tests	Geographical area	COMMUNITIES/SPECIES								CATEGORIES OF CONTAMINANTS						
						Plankton	Benthos	Interstitial fauna	Microorganisms	Marine mammals	Pelagic	Demersal	Spp.of commerc.interest	Halogenated hydrocarbons	Petroleum hydrocarbons	Other organic chemicals	Metals	Radioactive substances	Biological pollutants	Others
AUSTRALIA cont'd	Division of Fisheries and Oceanography C.S.I.R.O. P.O. Box 21 Cronulla, N.S.W. 2230	M			40	X	X										X			
	Department of Zoology University of Tasmania Box 252 C, G.P.O. Hobart 7001	F		F			X										X			
	Department of Fisheries and Fauna W.A. Marine Research Laboratories P.O. Box 20 North Beach, W.A. 6020	A	A		63 60								X	X			X			
BELGIUM	Collectif de Bio-ecologie Université Libre de Bruxelles 50 Av. F.D. Roosevelt 1050 Bruxelles	M		M	12	X	X										X			
	Institut royal des Sciences naturelles de Belgique rue Vautier 31 1040 Bruxelles	A	A	A	12 16	X	X	X	X		X	X					X	X	X	
	Laboratory for Biological Research in Environmental Pollution State University of Ghent J. Plateaustraat 22 9000 Ghent	A		A	12	X	X				X			X			X			
BERMUDA	Bermuda Biological Station for Research Inc. St. Georges West	M		M	10						X				X					

COUNTRY	INSTITUTIONS	Research data	Monitoring data	Bioassay/toxicity tests	Geographical area	COMMUNITIES/SPECIES								CATEGORIES OF CONTAMINANTS						
						Plankton	Benthos	Interstitial fauna	Microorganisms	Marine mammals	Pelagic	Demersal	Spp. of commerc. interest	Halogenated hydrocarbons	Petroleum hydrocarbons	Other organic chemicals	Metals	Radioactive substances	Biological pollutants	Others
CANADA	Marine Sciences Research Laboratory Memorial University of Newfoundland St. John's, Newfoundland	M			10								X				X			
	Department of Biochemistry Memorial University of Newfoundland St. John's, Newfoundland	M		M	10				X				X	X		X				
	Biological Station Fisheries and Marine Service Department of the Environment Water Street East St. John's, Newfoundland	M			18 10		X		X		X	X	X		X	X	X		X	
	Halifax Laboratory Fisheries and Marine Service Department of the Environment P.O. Box 429 Halifax, Nova Scotia	M		M	10								X				X			
	Library Atlantic Regional Laboratory National Research Council of Canada 1411 Oxford Street Halifax, Nova Scotia				18 10	X			X					X						
	Biology Department Dalhousie University Halifax, Nova Scotia	M				X				X	X		X				X			
	Marine Ecology Laboratory Bedford Institute of Oceanography Dartmouth, Nova Scotia	M		M	10 18	X	X			X				X	X					
	Vancouver Laboratory Fisheries Research Board of Canada 6640 N.W. Marine Drive Vancouver 8, British Columbia	M			30								X	X	X	X	X			

COUNTRY	INSTITUTIONS	Research data	Monitoring data	Bioassay/toxicity tests	Geographical area	COMMUNITIES/SPECIES								CATEGORIES OF CONTAMINANTS						
						Plankton	Benthos	Interstitial fauna	Microorganisms	Marine mammals	Pelagic	Demersal	Spp.of commerc.interest	Halogenated hydrocarbons	Petroleum hydrocarbons	Other organic chemicals	Metals	Radioactive substances	Biological pollutants	Others
CANADA cont'd	Pacific Environment Institute Fisheries Research Board of Canada 4160 Marine Drive West Vancouver, British Columbia	M		M	30	X	X						X				X			X
	National Museum of Natural Sciences 2379 Holly Lane Ottawa K1A OM8		M		18	X	X		X	X	X	X	X							
	Fisheries Research Station Ontario Ministry of Natural Resources R.R. No. 1 TEHKUMMAH Manitoulin Island, Ontario POP 2CO		F		GL								X	X			X			
	Atomic Energy of Canada Ltd. Chalk River Nuclear Laboratories Biology and Health Physics Division Chalk River, Ontario KOJ 1JO	F					X					X						X		
	Great Lakes Biolimnology Laboratory Fisheries and Marine Service Department of the Environment Canada Centre for Inland Waters 867 Lakeshore Road P.O. Box 5050 Burlington, Ontario L7R 4A6	F	F	F	GL	X	X	X	X				X	X	X		X			X
	Institute of Environmental Sciences and Engineering Haultain Building University of Toronto Toronto, Ontario M5S 1A4	F		F	GL	X		X	X				X	X			X		X	
	Royal Ontario Museum 100 Queen's Park Toronto, Ontario M5S 2C6	F			GL								X				X			
	Province of Manitoba Department of Mines, Resources and Environmental Management Winnipeg, Manitoba R3C OV8	F	F				X						X	X			X			X

COUNTRY	INSTITUTIONS	Research data	Monitoring data	Bioassay/toxicity tests	Geographical area	COMMUNITIES/SPECIES								CATEGORIES OF CONTAMINANTS						
						Plankton	Benthos	Interstitial fauna	Microorganisms	Marine mammals	Pelagic	Demersal	Spp.of commerc.interest	Halogenated hydrocarbons	Petroleum hydrocarbons	Other organic chemicals	Metals	Radioactive substances	Biological pollutants	Others
CANADA cont'd	Freshwater Institute Fisheries and Marine Service 501 University Crescent Winnipeg, Manitoba R3T 2N6	F		F		X	X		X				X	X		X	X			
	Central Region Fisheries and Marine Service 501 University Crescent Winnipeg, Manitoba R3T 2N6		F		GL					X			X	X			X			X
	University of Prince Edward Island Charlottetown Prince Edward Island		F										X	X			X			
	Fish and Wildlife Division Fisheries Library D-503 Terrace Building Edmonton, Alberta		F	F									X	X			X		X	
	Faculty of Science The University of New Brunswick Fredericton, New Brunswick	F		F					X				X	X	X		X		X	
	Departmental Library Minister of Environment Ottawa K1A OH3	A	A	A	10 30 70	X			X	X		X	X	X	X				X	
	Inspection Branch Fisheries and Marine Service Department of the Environment Ottawa, Ontario		A		10 20 30 40 70					X	X	X	X	X	X		X	X	X	
	Department of Zoology University of Guelph Guelph, Ontario	A		A	GL		X		X	X			X				X		X	

COUNTRY	INSTITUTIONS	Research data	Monitoring data	Bioassay/toxicity tests	Geographical area	COMMUNITIES/SPECIES								CATEGORIES OF CONTAMINANTS						
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CANADA cont'd	Southern Operations Branch Pacific Region Fisheries and Marine Service Department of the Environment West Pender Street Vancouver, British Columbia	A	A	A	39	X	X		X	X	X	X	X	X	X	X	X	X	X	
	Biological Station Fisheries and Marine Service Department of the Environment St. Andrews, New Brunswick	A	A	A	18 10			X			X	X	X	X	X					
	Fish Inspection Laboratories Newfoundland Region Fisheries and Marine Service Department of the Environment P.O. Box 5667 St. John's, Newfoundland	A	A		10				X	X	X	X	X	X	X	X	X		X	
	Resources Development Branch Fisheries and Marine Service Department of the Environment P.O. Box 550 Halifax, Nova Scotia	A			10								X	X			X			
	Surveillance and Analysis Division Environmental Protection Service P.O. Box 2406 Halifax, Nova Scotia		A	A	18 10	X	X					X	X	X	X		X		X	
	Biology Department Acadia University Wolfville, Nova Scotia	A		A	73 19								X	X			X			
	Freshwater Institute Fisheries Research Board of Canada 501 University Crescent Winnipeg, Manitoba R3T 2N6	A	A	A		X	X	X		X	X	X	X	X		X	X			

COUNTRY	INSTITUTIONS	Research data	Monitoring data	Bioassay/toxicity tests	Geographical area	COMMUNITIES/SPECIES								CATEGORIES OF CONTAMINANTS						
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CHILE	Departamento de Tecnología Pesquera Universidad del Norte Sección Oceanografía Casilla 1280 Antofagasta	M			40		X						X				X		X	X
	Instituto Hidrografico de la Armada Casilla 324 Valparaiso	M			40													X		
	Departamento de Biologia Marina y Oceanografía Centro de Investigaciones del Mar Universidad Catolica de Valparaiso Casilla 1020 Valparaiso	M			40		X					X					X		X	
	Centro de Investigaciones Submarinas Universidad del Norte Casilla 117 Coquimbo	M			40							X	X			X			X	
	Laboratorio de Zoologia Departamento de Biologia Ambiental y Poblaciones I.C. Biologicas Universidad Catolica de Chile Casilla 114-D Santiago				40		X	X							X				X	
	Departamento de Biologia Marina y Oceanografía Universidad de Concepción Casilla 1367 Concepción	M			40	X	X										X			
	Escuela de Pesquerias y Alimentos Universidad Catolica de Valparaiso Casilla 4059 Valparaiso			F									X		X		X			

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						Plankton	Benthos	Interstitial fauna	Microorganisms	Marine mammals	Pelagic	Demersal	Spp.of commerc.interest	Halogenated hydrocarbons	Petroleum hydrocarbons	Other organic chemicals	Metals	Radioactive substances	Biological pollutants	Others
CHILE cont'd	Ministerio de Agricultura Servicio Agrícola y Ganadero Programa Nacional de Administración y Fomento Pesquero Santiago	F		F									X						X	X
COLOMBIA	Museo del Mar Calle 23 No. 6-58 Bogotá	A			17 20 40	X	X		X	X		X	X	X						
CUBA	Instituto Nacional de la Pesca Centro de Investigaciones Pesqueras CEDIT, Primera No. 2406 Miramar, Marianao Habana	M	M	M	10 17	X	X	X			X	X	X	X	X	X	X	X		
	Instituto de Oceanología Ave. Ira. No. 18406 Repto. Flores Cubanacán, Marianao Habana	M		M	17	X			X					X		X			X		
DENMARK	Grønlands Fiskeriundersøgelser Jaegersborg Allé 1 B 2920 Charlottenlund	M	M		10		X			X	X	X					X			
FINLAND	Institute of Marine Research P.O. Box 166 SF 00141 Helsinki 14	M			13	X	X									X				

COUNTRY	INSTITUTIONS	Research data	Monitoring data	Bioassay/toxicity tests	Geographical area	COMMUNITIES/SPECIES								CATEGORIES OF CONTAMINANTS						
						Plankton	Benthos	Interstitial fauna	Microorganisms	Marine mammals	Pelagic	Demersal	Spp. of commerc. interest	Halogenated hydrocarbons	Petroleum hydrocarbons	Other organic chemicals	Metals	Radioactive substances	Biological pollutants	Others
FINLAND cont'd	National Board of Waters Research Institute Water Research Office P.O. Box 250 00101 Helsinki 10	A		A	13	X							X	X		X	X			
FRANCE	Institut Océanographique 195, rue Saint-Jacques Paris 5eme	M		M	14	X	X	X							X					
	Institut des Pêches Maritimes Centre de Recherches de Sète 1, rue Jean-Vilar 34200 Sète	M	M	M	16								X						X	
	Institut Scientifique et Technique des Pêches Maritimes B.P. 1049 44037 Nantes Cedex	M	M	M	10 12 16	X				X	X	X	X	X	X		X		X	X
	C.E.R.B.O.M. Parc de la Côte Avenue Jean Lorrain 06300 Nice	M	M	M	14 15 16	X	X	X	X		X			X	X		X		X	
	College de France Laboratoire de Biologie Marine B.P. 38 Concarneau (Finistère)			M	15	X	X						X			X			X	
	Station Océanographique Centre de Recherches et d'Etudes Le Bout Blanc 17000 La Rochelle	M		M	15 16 14		X										X			

COUNTRY	INSTITUTIONS	Research data	Monitoring data	Bioassay/toxicity tests	Geographical area	COMMUNITIES/SPECIES								CATEGORIES OF CONTAMINANTS						
						Plankton	Benthos	Interstitial fauna	Microorganisms	Marine mammals	Pelagic	Demersal	Spp.of commerc.interest	Halogenated hydrocarbons	Petroleum hydrocarbons	Other organic chemicals	Metals	Radioactive substances	Biological pollutants	Others
FRANCE cont'd	Institut Pasteur 20, Bd. Louis XIV B.P. 2017 59012 Lille Cedex	F		F		X	X		X					X			X		X	
	Ministère de l'Agriculture 74 Thonon les Bains	F											X				X			
FEDERAL REPUBLIC OF GERMANY	Bibliothek Institut für Meereskunde an der Universität Kiel Düsternbrooker Weg 20 23 Kiel			M	12 13	X	X		X	X			X	X	X	X	X	X	X	
	Abteilung Chemische Ozeanographie Institut für Meereskunde an der Universität Kiel Düsternbrooker Weg 20 23 Kiel	M		M	10 13	X	X							X	X		X			
	Institut für Meeresforschung Am Handelshafen 12 285 Bremerhaven	M		M	10 12	X	X		X					X			X			
	Kohlenstoffbiologische Forschungsstation e.V. Bunsen-Kirchhoff-Str. 13 46 Dortmund	F	F			X			X				X				X		X	X
	Institut für Küsten- und Binnenfischerei der Bundesforschungsanstalt für Fischerei Palmaille 9 2000 Hamburg 50	A	A	A	10 12 13 16 35						X	X	X	X						

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						Plankton	Benthos	Interstitial fauna	Microorganisms	Marine mammals	Pelagic	Demersal	Spp.of commerc.interest	Halogenated hydrocarbons	Petroleum hydrocarbons	Other organic chemicals	Metals	Radioactive substances	Biological pollutants	Others
GREECE	Institute of Oceanographic and Fishing Research Ministry of Culture and Sciences Agios Kosmas Ellinikon Athens	A		A	16	X	X				X				X	X	X	X		
HONG KONG	Agriculture and Fisheries Department Canton Road Government Offices 393 Canton Road, 12th Floor Kowloon				35								X						X	
ICELAND	Marine Research Institute Skulagata 4 Reykjavik	A			10	X				X				X			X		X	
	Icelandic Fisheries Laboratories Department of Bacteriology Skulagata 4 Reykjavik	A							X										X	
INDONESIA	Lembaga Penelitian Laut. Jl. Aquarium - Pasar Ikan Jakarta Barat P.O. Box 580/Dak	M			35 36	X	X		X		X									X
	Marine Fisheries Research Institute Jl. Kerapu 12 Jakarta-Kota	M		M	36						X	X	X		X					X

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IRAN	Iranian Documentation Centre Institute for Research and Planning in Science and Education P.O. Box 11-1387 Teheran	A			53 CS	X	X	X	X	X			X	X	X	X	X		X	
IRELAND	Department of Agriculture and Fisheries Fisheries Division 3 Cathal Brugha Street Dublin 1		A		14 10		X	X				X	X	X			X	X	X	
ISRAEL	Weizmann Institute of Science Rehovot	M			51		X								X					
	Israel Oceanographic and Limnological Research Ltd. 120 Haazmaut Road P.O. Box 1793 Haifa	A	A	A	16 51	X								X	X		X			
	Environmental Health Laboratory Hebrew University Medical School Jerusalem	A		A	51 16	X	X		X										X	
ITALY	Stabilimento Ittiogenico di Brescia Largo Torrelunga 7 25100 Brescia			F		X							X							
	Istituto Sperimentale Talassografico Viale R. Gessi 2 34123 Trieste	A	A	A	16											X	X			

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ITALY cont'd	Laboratorio di Biologia Marina e Pesca Viale Adriatico 54 Fano 61032 Pesaro	A		A	16		X				X	X			X					
IVORY COAST	Centre de Recherches Océanographiques B.P. V18 Abidjan	M		M	21				X						X					
JAPAN	The Whales Research Institute 1-3-1 Etchujima Koto-ku Tokyo	M								X							X			
	Research Planning and Coordination Division Tokai Regional Fisheries Research Laboratory Kachidoki 5-5-1 Chuo-ku Tokyo	M		M	30 33	X	X				X	X	X	X		X	X	X		
	Hokkaido Regional Fisheries Research Laboratory Yoichi Hokkaido	M			33	X												X		
	The Nansei Regional Fisheries Research Laboratory (Hiroshima Unit) Maruishi Ono-cho Saeki-gun Hiroshima-Ken	M		M	33	X	X							X	X		X			

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JAPAN cont'd	Library The Hokkaido Salmon Hatchery Fisheries Agency Nakanoshima, Toyohira-Ku Sapporo, Hokkaido	F																		
	Department of Chemistry Kyoto University of Education Fushimi-ku Kyoto 612	A				X							X				X	X		
	Faculty of Marine Science and Technology Tokai University 1000 Orido, Shimizu Shizuoka Pref. 424	A			33 30												X				
KOREA	National Fisheries Research and Development Agency Yongdo-Ku Pusan	M		M	33 34			X			X	X					X		X	
KUWAIT	Kuwait Institute for Scientific Research P.O. Box 12009 Kuwait		M		53	X	X	X	X		X	X	X	X	X		X	X	X	X
MALTA	Department of Physiology, Biochemistry and Biology The Royal University of Malta Msida	M		M	16				X				X	X			X			

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MEXICO	Departamento de Ciencias Marinas Escuela de Ciencias Maritimas y Tecnologia de Alimentos Tecnologico de Monterrey Bahia de Bacochibampo Apartado Postal 484 Guaymas Sonora	M		M	38								X	X						
	Instituto de Geofísica Torre de Ciencias Ciudad Universitaria Mexico 20, D.F.	F				X	X	X					X		X		X			
	Biblioteca Instituto Nacional de Pesca Av. Cuauhtemoc No. 80 Mexico 7, D.F.	A		A	17 38 30	X		X		X	X	X	X			X			X	
	Instituto de Oceanologia Apartado Postal 453 Ensenada B.C.	A	A	A	30 38	X	X				X	X	X	X	X		X			X	
MOROCCO	Institut des Pêches Maritimes Rue de Tiznit Casablanca	M	M										X						X	
	Office National des Pêches 13-15, rue Chevalier Bayard Casablanca		M	M										X		X	X		X	
MOZAMBIQUE	Universidade de Lourenço Marques Instituto de Química Lourenço Marques	M			64								X				X			

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						Plankton	Benthos	Interstitial fauna	Microorganisms	Marine mammals	Pelagic	Demersal	Spp.of commerc.interest	Halogenated hydrocarbons	Petroleum hydrocarbons	Other organic chemicals	Metals	Radioactive substances	Biological pollutants	Others
NETHERLANDS	Netherlands Institute for Fishery Investigation P.O. Box 68 Ijmuiden	A	A	A	12								X	X			X	X	X	X
	Department of Toxicology Agricultural University De Dreijen 11 Wageningen	A		A	12					X	X			X			X			
	Rijksinstituut voor Zuivering van Afvalwater Westeinde 3a Voorburg	A		A	12	X	X							X			X			
NEW ZEALAND	Fisheries Research Laboratory P.O. Box 19062 Wellington	M			40		X	X				X	X				X			
	Zoology Department University of Otago Dunedin	F					X				X		X				X			
	Zoology Department University of Canterbury Private Bag Christchurch 1	A		A	40 80		X							X			X			
NORWAY	Norsk Institutt for Tangog Tareforskning N.T.H. Trondheim	M		M	11	X	X										X			
	Institute of Marine Research P.O. Box 2906 5011 Bergen-Nordnes	M	M	M	11 12 71	X					X	X		X	X	X	X			

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PERU	Ministerio de Pesqueria Direccion General de Investigacion Cientifica y Tecnologica Lima	A		A	40						X	X	X	X			X		X	X
PHILIPPINES	National Pollution Control Commission NSDB Compound Herran Cor. Taft Avenue Manila		A	A	35								X		X		X			
	Department of Zoology College of Arts and Sciences University of the Philippines Diliman, Quezon City D505	A			35								X						X	
POLAND	Sea Fisheries Institute Oceanographic Department Al. Zjednoczenia 1 81-345 Gdynia	A	A	A	10 12 13	X	X		X		X	X	X	X	X		X	X	X	X
PORTUGAL	Ministero do Ultramar Junta de Investigacoes do Ultramar Av. da Ilha da Madeira-Encosta do Restelo Lisbon 3	M	M	M	20 64	X					X	X	X						X	
ROMANIA	Institut Roumain de Recherches Marines Laboratoire de Pollution Boul. Lenin 300 Constanta	M		M	16	X	X		X		X				X		X	X	X	

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SOUTH AFRICA	Sea Fisheries Private Bay Sea Point Cape Town	M	M		22 60	X	X	X		X	X	X		X		X	X	X		
	National Institute for Water Research of the South African Council for Scientific and Industrial Research Natal Regional Laboratory P.O. Box 1 Congella, Natal	A	A	A	60	X	X	X	X					X	X		X		X	
SPAIN	Instituto de Investigaciones Pesqueras Paseo Nacional, s/n, Barcelona 3	M			10 16						X	X	X	X	X		X		X	
	Instituto Español de Oceanografía Laboratorio Costero Felipe Sánchez 18 Vigo	M	M		10		X				X			X	X		X		X	X
	Instituto de Investigaciones Pesqueras Cadiz	M			10			X			X	X	X		X		X			
	Instituto Español de Oceanografía Laboratorio del Mar Menor Apartado de correos - 22 San Pedro del Pinatar (Murcia)	M	M	M	10 16	X	X						X	X	X		X		X	
	Laboratorio Oceanografico C/ Lealtad 13-5º Santander		M		15				X				X		X		X		X	
	Instituto de Investigaciones Pesqueras Avd. Orillamar no. 47 Vigo (Pontevedra)	A		A	10 15 16		X				X		X	X						

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						Plankton	Benthos	Interstitial fauna	Microorganisms	Marine mammals	Pelagic	Demersal	Spp.of commerc.interest	Halogenated hydrocarbons	Petroleum hydrocarbons	Other organic chemicals	Metals	Radioactive substances	Biological pollutants	Others
SWEDEN	Institutet för Vatten- Och Luftvårdsforskning 403 10 Göteborg	M		M	12		X							X			X			
	National Board of Fisheries Institute of Marine Research S-45300 Lysekil	M			12 13	X	X			X	X	X	X	X	X		X			
	Institute of Zoology Box 561 S-75122 Uppsala	M	M		12 13		X										X	X		
	Biblioteket Statens Vattenfallsverk 16287 Vällingby		F		13								X	X						
SWITZERLAND	Universität Bern Geologisches Institut Sahlistrasse 6 3012 Bern	A		A	30 40	X			X		X								X	
U.K.	Natural Environment Research Council																			
	- Institute of Oceanographic Sciences Wormley Godalming, Surrey	M			10	X					X					X	X			
	- Library Institute of Oceanographic Sciences Natural Environment Research Council Beadon Road Taunton, Somerset		M		14	X	X	X	X								X			

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U.K. cont'd	Natural Environment Research Council cont'd																			
	- Institute for Marine Environmental Research 13/14 St. James' Terrace Plymouth PL1 3AX	M		M	14 10	X	X			X				X			X			
	- Institute for Marine Environmental Research Oceanographic Laboratory 78 Craighall Road Edinburgh, EH6 4RQ	M	M		10	X								X			X			
	- The Laboratory Marine Biological Association of the U.K. Citadel Hill Plymouth, PL1 2PB	M		M	14		X	X					X		X		X			
	- British Antarctic Survey 30 Gillingham Street London, SW1V 1HY	M			80	X				X		X		X			X			
	Applied Geochemistry Research Group Department of Geology Imperial College Prince Consort Road London, S.W.7	M		M			X						X				X			
	The Department of Oceanography The University Southampton SO9 5NH	M		M	14 10	X	X	X			X						X			
	Department of Zoology University of Newcastle upon Tyne Newcastle upon Tyne, NE1 7RU	M			12		X										X			
	Geology Department University College of Wales Aberystwyth, Cards.	M		M	14												X			

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U.K. cont'd	Marine Biological Station Port Erin Isle of Man	M		M	14		X										X			
	Imperial Chemical Industries Ltd. Brixham Laboratory Freshwater Quarry Brixham, Devon	M	M	M	12 14		X				X	X		X			X			
	Lancashire and Western Sea Fisheries Joint Committee Biological Sciences Field Station The University of Lancaster Bailrigg, Lancaster	M	M		14		X						X				X		X	
	Dove Marine Laboratory Cullercoats North Shields Northumberland	M		M	12			X	X						X		X			
	Forth Pollution Research Department of Biological Science Napier College of Science and Technology Colinton Road Edinburgh EH10 5DT	M	M	M	12		X										X		X	
	Department of Agriculture and Fisheries for Scotland Marine Laboratory Library P.O. Box 101 Aberdeen, AB9 8DB	M	M	M	12 10									X	X	X	X		X	X
	Biological Sciences The University Dundee DD1 4HN	M		M	12		X		X				X				X		X	
	Department of Biology The University Stirling	M		M	12		X										X			

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U.K. cont'd	Animal Ecology Research Group Department of Zoology South Parks Road Oxford	F				X			X					X						
	The Nature Conservancy Monks Wood Experimental Station Toxic Chemicals and Wildlife Division Abbots Ripton 381 Huntingdon	F	F	F		X	X							X			X			
	Pesticide Analysis Section Tropical Products Institute 56/62 Gray's Inn Road London, WC1X 8LU	A	A	A	40								X	X			X			
	Ministry of Agriculture, Fisheries and Food* Fisheries Laboratory Lowestoft, Suffolk	A	A	A	12 14 10	X	X				X	X	X	X	X	X	X	X	X	X	X
	School of Chemistry The University Bristol BS	A			14		X	X	X	X				X	X	X	X				
	Organic Geochemistry Unit University of Newcastle upon Tyne Newcastle upon Tyne, NE1 7RU	A			10 12		X		X						X	X	X				
	Department of Biological Sciences Hatfield Polytechnic Hatfield, Hertfordshire	A		A		X							X	X							
	Freshwater Fisheries Laboratory Pitlochry PH16 5LB	A	A		22 10 12	X	X	X		X	X	X	X	X			X				
	* This also includes: Torry Research Station, Aberdeen MAFF laboratories at Pakefield, Lowestoft Radiobiological Laboratory at Hamilton Dock, Lowestoft MAFF laboratory at Burnham-on-Crouch				13 70 40															

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						Plankton	Benthos	Interstitial fauna	Microorganisms	Marine mammals	Pelagic	Demersal	Spp. of commerc. interest	Halogenated hydrocarbons	Petroleum hydrocarbons	Other organic chemicals	Metals	Radioactive substances	Biological pollutants	Others
URUGUAY	Facultad de Veterinaria Instituto de Investigaciones Pesqueras R.O. del Uruguay Montevideo	A			23						X	X	X				X	X	X	
U.S.A.	Biological Oceanography Lamont-Doherty Geological Observatory of Columbia University Palisades, New York 10964	M	M		10 17 30	X	X				X	X	X				X		X	
	New York State Department of Environmental Conservation Building No. 10 State University of New York at Stony Brook Stony Brook, New York 11790	M	M		10	X	X	X			X	X	X	X			X			
	Commonwealth of Massachusetts Department of Natural Resources Division of Marine Fisheries Cat Cove Marine Laboratory 92 Fort Avenue Salem, Massachusetts 01970	M		M	10	X	X		X				X	X	X		X		X	
	Department of Earth Sciences Northeastern University Boston, Massachusetts 02115	M	M	M	10	X	X	X			X	X		X			X	X	X	
	Woods Hole Oceanographic Institution Woods Hole, Massachusetts 02543	M			10 16	X	X		X		X			X	X		X	X	X	
	Northeast Fisheries Center National Marine Fisheries Service, NOAA Woods Hole, Massachusetts 02543	M			10									X		X		X		

COUNTRY	INSTITUTIONS	Research data	Monitoring data	Bioassay/toxicity tests	Geographical area	COMMUNITIES/SPECIES								CATEGORIES OF CONTAMINANTS						
						Plankton	Benthos	Interstitial fauna	Microorganisms	Marine mammals	Pelagic	Demersal	Spp. of commerc. interest	Halogenated hydrocarbons	Petroleum hydrocarbons	Other organic chemicals	Metals	Radioactive substances	Biological pollutants	Others
U.S.A. cont'd	Department of Sea and Shore Fisheries State House Annex - Capitol Shopping Center Augusta, Maine 04330	M	M	M	10		X						X	X	X		X		X	
	The IRA C. Darling Center for Research, Teaching and Service University of Maine Walpole, Maine 04573	M	M	M	10 70 80	X	X	X	X		X	X		X		X	X	X	X	
	Graduate School of Oceanography University of Rhode Island Kingston, Rhode Island 02881	M		M	10		X			X					X	X	X			
	Middle Atlantic Coastal Fisheries Center National Marine Fisheries Service, NOAA Milford, Connecticut 06460	M	M	M	10								X				X			
	Milford Laboratory National Marine Fisheries Service, NOAA 212 Rogers Avenue Milford, Connecticut 06460	M	M	M	10		X				X	X	X				X		X	
	Sandy Hook Laboratory Middle Atlantic Fisheries Center National Marine Fisheries Service, NOAA Highlands, New Jersey 07732	M	M	M	10	X	X	X	X		X	X	X	X	X		X		X	X
	Environmental Protection Agency Edison Water Quality Research Laboratory Edison, New Jersey 08817	M		M	10	X	X		X				X		X					
	Chesapeake Biological Laboratory Solomons, Maryland 20688	M	M	M	10						X	X	X	X			X			X

COUNTRY	INSTITUTIONS	Research data	Monitoring data	Bioassay/toxicity tests	Geographical area	COMMUNITIES/SPECIES								CATEGORIES OF CONTAMINANTS						
						Plankton	Benthos	Interstitial fauna	Microorganisms	Marine mammals	Pelagic	Demersal	Spp.of commerc.interest	Halogenated hydrocarbons	Petroleum hydrocarbons	Other organic chemicals	Metals	Radioactive substances	Biological pollutants	Others
U.S.A. cont'd	College Park Fish. Prod. Tech. Laboratory National Marine Fisheries Service, NOAA University of Maryland Campus Regents Drive College Park, Maryland 20740	M	M	M	10 30 17		X				X	X	X	X			X			
	College Park Technology Laboratory National Marine Fisheries Service, NOAA Region and Campus Drive University of Maryland Campus College Park, Maryland 20740	M	M										X				X			
	Naval Research Laboratory Department of the Navy Washington, D.C. 20375	M		M	17 10	X			X		X			X			X		X	
	Smithsonian Institution Washington, D.C. 20560	M			10	X														X
	Program Director - Microbiology Office of Naval Research 800 N. Quincy Street Arlington, Virginia 22217	M		M	30				X					X	X		X			
	Oceanography Department Old Dominion University Norfolk, Virginia 23508	M											X							
	Atlantic Estuarine Fisheries Center National Marine Fisheries Service, NOAA Pivers Island P.O. Box 750 Beaufort, North Carolina 28516	M		M	10	X	X	X			X	X	X	X			X	X		
	Marine Laboratory Duke University Beaufort, North Carolina 28516	M		M	10								X	X			X			

COUNTRY	INSTITUTIONS	Research data	Monitoring data	Bioassay/toxicity tests	Geographical area	COMMUNITIES/SPECIES								CATEGORIES OF CONTAMINANTS						
						Plankton	Benthos	Interstitial fauna	Microorganisms	Marine mammals	Pelagic	Demersal	Spp. of commerc. interest	Halogenated hydrocarbons	Petroleum hydrocarbons	Other organic chemicals	Metals	Radioactive substances	Biological pollutants	Others
U.S.A. cont'd	Institute of Marine Sciences University of North Carolina Morehead City, North Carolina 28557	M			10								X	X						
	Department of Oceanography Florida State University Tallahassee, Florida 32306	M		M	17						X	X	X	X	X		X			
	Gulf Coastal Fisheries Center National Marine Fisheries Service, NOAA 4700 Avenue U Galveston, Texas 77550	M			17								X				X			
	Allan Hancock Foundation University of Southern California Los Angeles, California 90007	M		M	30	X	X		X						X		X		X	X
	Bureau of Marine Sciences California State University at San Diego 5402 College Avenue San Diego, California 92115	M		M	38		X						X	X			X	X	X	X
	Office of Marine Geology U.S. Geological Survey 345 Middlefield Road Menlo Park, California 94025	M			30	X	X										X			
	Tiburon Fisheries Laboratory National Marine Fisheries Service, NOAA P.O. Box 98 Tiburon, California 94920	M		M	30								X		X					
	Moss Landing Marine Laboratories P.O. Box 223 Moss Landing, California 95039	M			30 38	X				X	X		X				X				

COUNTRY	INSTITUTIONS	Research data	Monitoring data	Bioassay/toxicity tests	Geographical area	COMMUNITIES/SPECIES								CATEGORIES OF CONTAMINANTS						
						Plankton	Benthos	Interstitial fauna	Microorganisms	Marine mammals	Pelagic	Demersal	Spp.of commerc.interest	Halogenated hydrocarbons	Petroleum hydrocarbons	Other organic chemicals	Metals	Radioactive substances	Biological pollutants	Others
U.S.A. cont'd	Northwest Fisheries Center National Marine Fisheries Service, NOAA 2725 Montlake Boulevard East Seattle, Washington 98112	M	M										X	X	X	X				
	Marine Mammal Division Northwest Fisheries Center National Marine Fisheries Service, NOAA Naval Support Activity, Building 192 Seattle, Washington 98115	M			30					X				X			X				
	Department of Fisheries State of Washington Room 115 General Administration Building Olympia, Washington 98504	M		M	30								X	X	.				X	
	Institute of Arctic Biology University of Alaska Fairbanks, Alaska 99201	M		M	70 31 39					X				X			X				
	Auke Bay Fisheries Laboratory National Marine Fisheries Service, NOAA Auke Bay, Alaska 99821	M		M	30								X		X					
	Oceanic Institute Makapuu Oceanic Center Waimanalo, Hawaii 96795	M		M	30						X		X	X						
	Pan Pacific Institute of Ocean Science P.O. Box 1171 Kailua, Hawaii 96734	M		M	30	X	X		X	X			X	X	X		X	X	X	

COUNTRY	INSTITUTIONS	Research data	Monitoring data	Bioassay/toxicity tests	Geographical area	COMMUNITIES/SPECIES								CATEGORIES OF CONTAMINANTS						
						Plankton	Benthos	Interstitial fauna	Microorganisms	Marine mammals	Pelagic	Demersal	Spp. of commerc. interest	Halogenated hydrocarbons	Petroleum hydrocarbons	Other organic chemicals	Metals	Radioactive substances	Biological pollutants	Others
U.S.A. cont'd	Savannah River Ecology Laboratory P.O. Drawer E Aiken, South Carolina 29801	F		F									X				X			
	Institute of Food and Agricultural Sciences University of Florida Gainesville, Florida 32611	F	F	F				X	X		X		X	X		X	X		X	
	Aquatic Ecology Laboratory Department of Forestry and Conservation Purdue University Lafayette, Indiana 47907	F									X		X	X	X		X			
	Natural Science Library 3140 National Science Building University of Michigan Ann Arbor, Michigan	F	F	F	GL	X	X	X	X					X	X		X		X	
	Library Institute for Fisheries Research Museums Annex Ann Arbor, Michigan 48104	F		F	GL	X	X				X	X		X						
	Iowa Cooperative Fishery Unit Department of the Interior Fish and Wildlife Service Science Hall, I.S.U. Ames, Iowa 50010	F	F	F			X						X	X						
	Laboratory of Limnology University of Wisconsin-Madison Madison, Wisconsin 53706	F		F			X					X					X		X	
	Fisheries Research Laboratory Southern Illinois University Carbondale, Illinois 62901	F		F									X	X			X			X

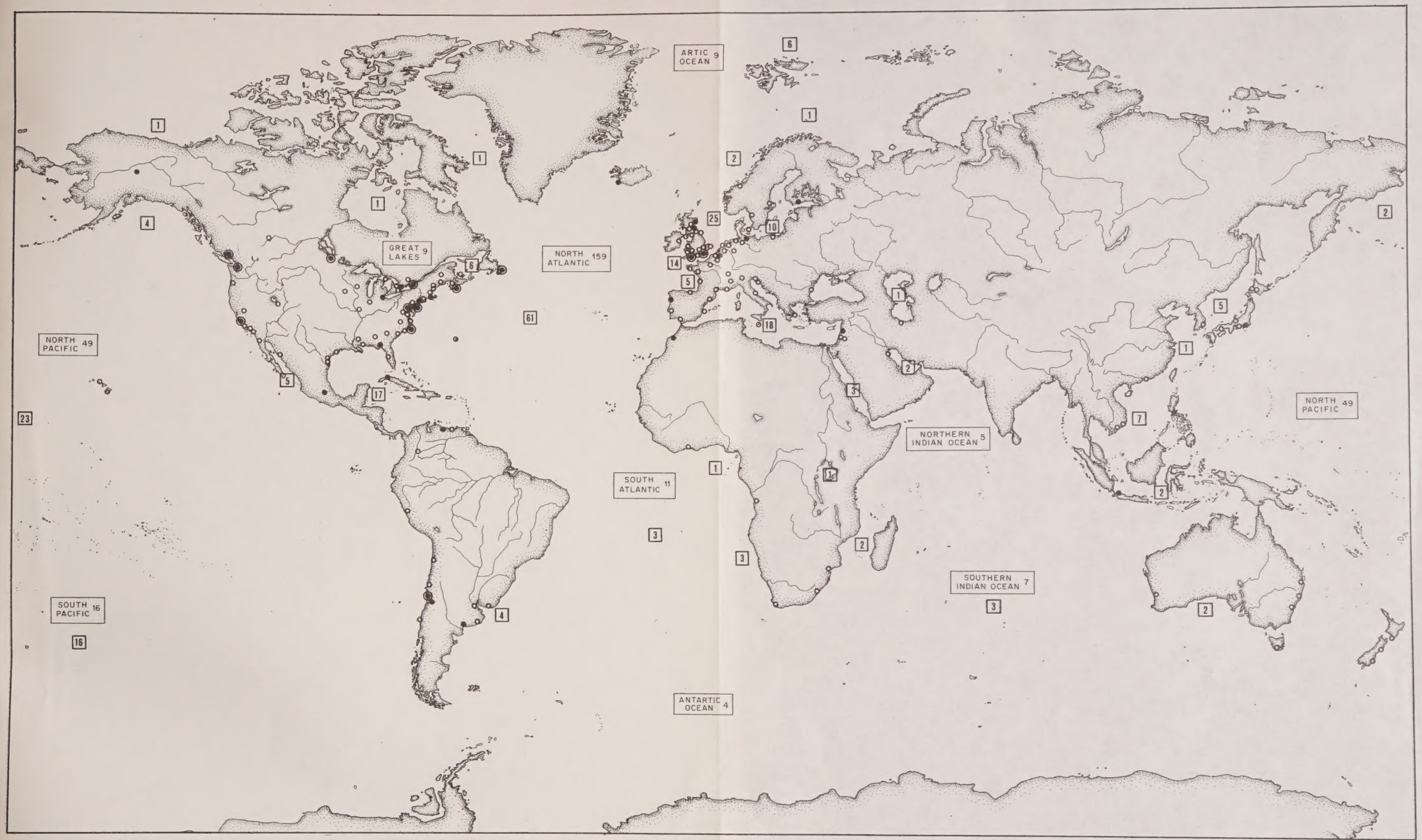
COUNTRY	INSTITUTIONS	Research data	Monitoring data	Bioassay/toxicity tests	Geographical area	COMMUNITIES/SPECIES								CATEGORIES OF CONTAMINANTS						
						Plankton	Benthos	Interstitial fauna	Microorganisms	Marine mammals	Pelagic	Demersal	Spp.of commerc.interest	Halogenated hydrocarbons	Petroleum hydrocarbons	Other organic chemicals	Metals	Radioactive substances	Biological pollutants	Others
U.S.A. cont'd	Fish-Pesticide Research Laboratory Bureau of Sport Fisheries and Wildlife Columbia, Missouri 65201	F		F	GL								X	X						X
	Department of Zoology Brigham Young University Provo, Utah 84602	F		F		X	X	X					X	X		X	X		X	X
	Coastal Zone and Estuarine Studies Division Northwest Fisheries Center National Marine Fisheries Service, NOAA 2725 Montlake Boulevard East Seattle, Washington 98112	F	F	F									X				X			X
	Geology Department Brooklyn College, C.U.N.Y. Brooklyn 10, New York 11210	A	A	A	10	X	X				X	X	X				X			
	Graduate Department of Marine Science Long Island University C.W. Post College 40 Merrick Avenue East Meadow, New York 11554	A	A	A	10	X	X		X		X	X		X	X		X		X	
	New York Ocean Science Laboratory P.O. Box 867 Montauk, New York 11954	A	A	A	10	X	X	X	X		X	X	X	X	X	X	X		X	X
	North Carolina Sea Grant Program 1235 Burlington Labs N.C. State University Raleigh, North Carolina 27607	A	A	A	10	X	X		X				X	X			X		X	
	University of North Carolina at Wilmington P.O. Box 3725 Wilmington, North Carolina 28401	A		A	10	X											X			

COUNTRY	INSTITUTIONS	Research data	Monitoring data	Bioassay/toxicity tests	Geographical area	COMMUNITIES/SPECIES								CATEGORIES OF CONTAMINANTS						
						Plankton	Benthos	Interstitial fauna	Microorganisms	Marine mammals	Pelagic	Demersal	Spp.of commerc.interest	Halogenated hydrocarbons	Petroleum hydrocarbons	Other organic chemicals	Metals	Radioactive substances	Biological pollutants	Others
U.S.A. cont'd	Department of Oceanography The Florida State University Tallahassee, Florida 32306	A		A	17	X	X					X	X	X			X			
	Department of Fisheries and Allied Aquacultures Auburn University Auburn, Alabama 36830	A		A	17	X	X						X	X			X		X	
	Gulf Coast Research Laboratory P.O. Box AG Ocean Springs, Missouri 39564	A		A	17	X				X					X	X	X			
	University of Texas Marine Science Institute Port Aransas, Texas 78373	A		A	17	X	X		X		X				X	X	X	X	X	
	Texas Parks and Wildlife Department 715 South Bronte Rockport, Texas 78382		A		17			X			X		X	X						
	Foresta Institute 6205 Franktown Road Carson City, Nevada 89701	A		A	80	X	X			X			X	X	X		X	X		
	Aquatic Research Institute 21393 Curtis Street Hayward, California 94545	A											X							
	School of Oceanography Oregon State University Corvallis, Oregon 97331	A		A	30	X	X				X	X		X			X	X		X
	Laboratory of Radiation Ecology College of Fisheries University of Washington Seattle, Washington 98195			A	30	X			X		X	X					X	X		

COUNTRY	INSTITUTIONS	Research data	Monitoring data	Bioassay/toxicity tests	Geographical area	COMMUNITIES/SPECIES								CATEGORIES OF CONTAMINANTS						
						Plankton	Benthos	Interstitial fauna	Microorganisms	Marine mammals	Pelagic	Demersal	Spp. of commerc. interest	Halogenated hydrocarbons	Petroleum hydrocarbons	Other organic chemicals	Metals	Radioactive substances	Biological pollutants	Others
U.S.A. cont'd	Institute of Marine Science University of Alaska Fairbanks, Alaska 99701	A		A	31 74 39 70	X	X	X		X			X	X	X		X			X
	Auke Bay Fisheries Laboratory National Marine Fisheries Service, NOAA P.O. Box 155 Auke Bay, Alaska 99821		A	A	39								X	X	X		X			
U.S.S.R.	Institute of Scientific Information U.S.S.R. Academy of Sciences Baltiyskaya ul. 14 Moscow A-219		A			X	X	X		X	X	X	X	X	X	X	X	X	X	
VENEZUELA	Instituto Venezolano de Investigaciones Cientificas Departamento de Ecologia Apartado 1827 Caracas	M			17						X	X					X	X		
	Instituto Oceanografico Apartado 94 Cumaná	M		M	17		X		X				X							
	Oficina Nacional de Pesca Ministerio de Agricultura y Cría Apartado 2578 Caracas 101	A		A	10 17						X	X	X	X	X	X	X			

COUNTRY	INSTITUTIONS	Research data	Monitoring data	Bioassay/toxicity tests	Geographical area	COMMUNITIES/SPECIES								CATEGORIES OF CONTAMINANTS						
						Plankton	Benthos	Interstitial fauna	Microorganisms	Marine mammals	Pelagic	Demersal	Spp.of commerc.interest	Halogenated hydrocarbons	Petroleum hydrocarbons	Other organic chemicals	Metals	Radioactive substances	Biological pollutants	Others
VIETNAM	Oceanographic Institute of Nha Trang Nha Trang	M			35		X							X	X				X	
	Faculté des Sciences Université de Saigon BP A/2 Saigon	A			35								X	X						
YUGOSLAVIA	Center for Marine Research Institute "Ruder Boskovic" Rovinj	M	M	M	16	X	X		X		X	X	X	X			X	X	X	

FIG. 1 : LOCATION OF INSTITUTES COLLECTING DATA ON CONTAMINATION IN AQUATIC ORGANISMS AND SAMPLING AREAS



Location : o = 1 institute
● = 2 institutes
◉ = 3 or more institutes

Sampling areas : □ = number of institutions analyzing samples from a particular sea area

▭ = total number of institutions actively sampling the region